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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/038,545

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Katsumi Tomioka

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10/04/2004

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EXAMINER

LEE, DAVID J

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,545

Applicant(s)

TOMIOKA, KATSUMI

Examiner

David J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/24/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04/23/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tochio (US Patent No. 6,563,613).

Regarding claim 1, Tochio teaches an optical subscriber system comprising: station equipment (fig. 2, 11); a plurality of subscriber units (fig. 2, 12₁ to 12_n); a transmission line for transmitting trailing signals from the station equipment to the plurality of subscriber units and transmitting leading signals from the plurality of subscriber units to the station equipment (fig. 2, 13); and a star coupler for branching trailing signals and combining the leading signals (fig. 2, 13a),

the station equipment comprising a transmission line distance monitor/processor unit (fig. 2, 11b, 23) which sends a distance measuring control signal to each of the subscriber units, measures, based on a distance measuring signal returned from each of the subscriber units, the transmission line distance between the station equipment and each of the subscriber units (fig. 2, 11a, and col. 5, lines 50-60), and judges whether the transmission line distance is larger or smaller than a reference value. In column 7, lines 1-3, Tochio discloses that the station equipment decides (judges) and gives notice of the transmission timing of the uplink main signal of each subscriber unit.

For this judgment to occur, it is necessary and inherent that a reference value must be given as a basis to compare, judge, and give notice of the transmission timing.

It is known that the transmission line distance to the subscriber unit can be calculated from the transmission speed of the delay-measurement optical signal and the delay time (see Tochio, col. 6, lines 64-67).

Regarding claim 2, Tochio teaches the station equipment further comprising a trailing signal multiplexer (fig. 2, 26 and col. 6, lines 8-11) and a leading signal separator (fig. 2, 26 and col. 6, lines 12-15) and functions to multiplex the distance measuring equipment signal, generated in the transmission line distance monitor/processor unit, in the trailing signal multiplexer to prepare a trailing signal, which is then sent to each of the subscriber unit, (col. 6, lines 8-11) and to separate, from a leading signal returned from each of the subscriber units, a distance measuring signal, in the leading signal separator (col. 6, lines 12-15), which is then sent to the transmission line distance monitor/processor unit (col. 6, line 14-15).

Regarding claim 3, Tochio teaches the optical subscriber system according to claim 2, wherein

the transmission line distance monitor/processor unit comprises a distance measuring control signal generator (fig. 5, 23a and col. 8, lines 27-30), a distance measuring section (fig. 2, 23 and col. 5, lines 58-60), and a distance judgment section (fig. 2, 11b, and col. 7, lines 1-3), and

the distance measuring control signal generated in the distance measuring control signal generator is multiplexed in the trailing signal multiplexer to prepare a

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trailing signal (fig. 2, 26 and col. 6, lines 8-11), which is then sent to each of the subscriber units, and a distance measuring signal is separated from a leading signal, returned from each of the subscriber units, in the leading signal separator to prepare a distance measuring signal (fig. 2, 26, and col. 6, lines 12-15) that is then input into the distance measuring section (col. 6, line 14-15) which sends a distance signal to the distance judgment section for judging whether the transmission line distance is larger or smaller than a reference value (col. 7, lines 1-3).

Regarding claim 5, Tochio teaches a method for monitoring the transmission line distance between station equipment and each of a plurality of subscriber units in an optical subscriber system comprising: station equipment (fig. 2, 11); a plurality of subscriber units (fig. 2, 12₁ to 12_n); a transmission line for transmitting trailing signal from the station equipment to the plurality of subscriber units and transmitting leading signals from the plurality of subscriber units to the station equipment (fig. 2, 13); and a star coupler for branching trailing signals and combining the leading signals (fig. 2, 13a), said method comprising the steps of:

sending a distance measuring control signal from the station equipment to each of the subscriber units (col. 5, lines 58-66);

measuring the transmission line distance based on a distance measuring signal returned from each of the subscriber units (col. 5, lines 66-67 to col. 6, lines 1-4); and

judging whether the transmission line distance is larger or smaller than a reference value (col. 7, lines 1-3).

Regarding claim 6, Tochio teaches the method according to claim 5, wherein

the station equipment comprises: a transmission line distance monitor/processor unit comprising a distance measuring control signal generator (fig. 5, 23a and col. 8, lines 27-30), a distance measuring section (fig. 2, 23 and col. 5, lines 58-60), and a distance judgment section (fig. 2, 11b, and col. 7, lines 1-3); a trailing signal multiplexer (fig. 2, 26 and col. 6, lines 8-11); and a leading signal separator (fig. 2, 26, and col. 6, lines 12-15), and

a distance measuring control signal generated in the distance measuring control signal generator (fig. 2, 26 and col. 6, lines 8-11) is multiplexed in the trailing signal multiplexer to prepare a trailing signal which is then sent to each of the subscriber units (fig. 2, 26 and col. 6, lines 8-11).

Regarding claim 7, Tochio teaches the method according to claim 6, wherein a distance measuring signal is separated from a leading signal, returned from each of the subscriber units, in the leading signal separator to prepare a distance measuring signal that is then input into the distance measuring section (col. 6, lines 13-15), which sends a distance signal to the distance judgment section for judging whether the transmission line distance is larger or smaller than a reference value (col. 7, lines 1-3).

Regarding claims 4, 9 and 10, Tochio discloses in column 7, lines 1-3, the optical subscriber system which, when the transmission line distance is larger than the reference value, issues an alarm ("gives notice of" – col. 7, line 2).

Regarding claims 8, 11 and 12, Tochio discloses in column 7, lines 1-3, the optical subscriber system which, when the transmission line distance is larger than the reference value, issues an alarm ("gives notice of" – col. 7, line 2).

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Minami et al. (US Patent No. 6,028,661) is cited to show an optical subscriber system (fig. 9) with a plurality of subscriber units (fig. 9, ONU), a transmission line, a star coupler (fig. 9, 4) for measuring apparatus to determine the location and distance to a fault point.

Yanagawa et al. (US Patent No. 5,396,596) is cited to show an optical subscriber system (fig. 2) with a plurality of subscriber units (fig. 2, 2), a transmission line, an optical coupler (fig. 2, 4) and discloses an optical transmission line monitoring method.

Imoff et al. (US Patent No. 5,357,360) is cited to show an optical subscriber system comprising a plurality of subscriber units (fig. 1, DU1-DUm), a transmission line, and optical couplers (fig. 1, K1-K4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Lee whose telephone number is (571) 272-2220. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

djl



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